Setting up the Development Environment

1. Install Visual Studio Code

Download and install VSCode from the official website:
https://code.visualstudio.com/download

2. Install USB Drivers

The driver is required for Windows to recognize the ESP32.

1. Download the Silicon Labs `CP210x Windows Drivers`:
   https://www.silabs.com/developers/usb-to-uart-bridge-vcp-drivers
2. Extract the downloaded archive `CP210x_Windows_Drivers.zip`
3. Install the driver by running `CP210xVCPInstaller_x64.exe`

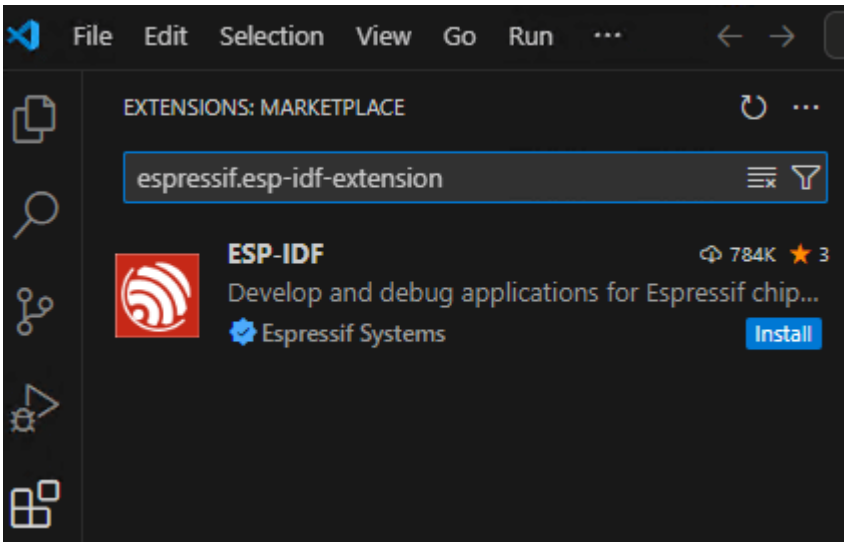
3. Install Visual C++ Redistributable

The Visual C++ Redistributable is required for compiling the project.

1. Download the latest version of the Visual C++ Redistributable Packages from the Microsoft website:
   https://learn.microsoft.com/en-us/cpp/windows/latest-supported-vc-redist
2. Run the downloaded file and follow the instructions to complete the installation.

4. Install ESP-IDF Extension

1. Open VSCode.
2. Open the **Extensions** view:
   - Via the Extensions icon  in the sidebar or
   - Using the shortcut `Ctrl + Shift + X`.
3. Enter `espressif.esp-idf-extension` in the search field.
4. Install the first result **ESP-IDF** by clicking "Install".

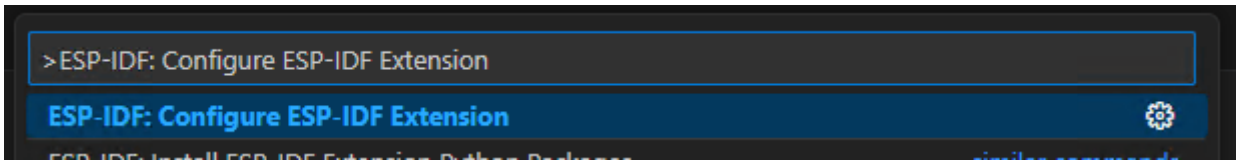


Alternatively, you can install the extension directly from the Visual Studio Marketplace:
ESP-IDF

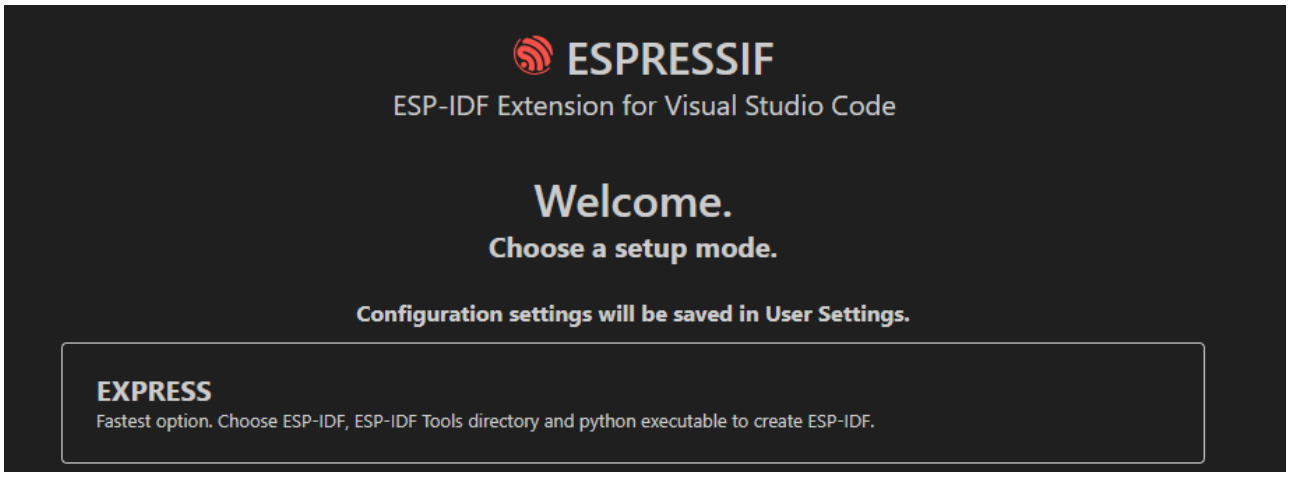
5. Set up the ESP-IDF Extension

After installation, the extension needs to be configured.

1. Open the ESP-IDF Explorer: Press `F1` in VSCode, type `ESP-IDF: Configure ESP-IDF Extension`, and select it.



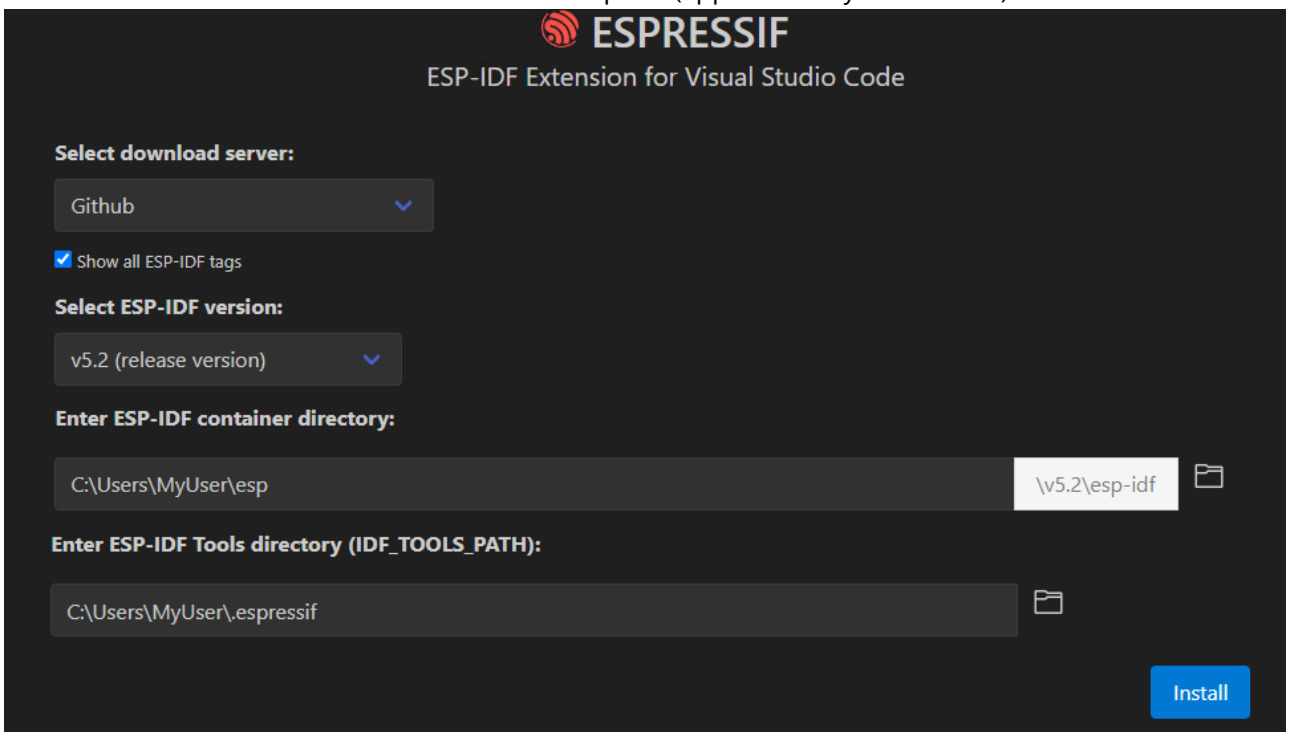
2. Select **Express** Setup Mode.



3. Enable the checkbox **Show all ESP-IDF tags**.

4. For **Select ESP-IDF version**, choose version **v5.2 (release version)**.

5. Click "Install" and wait for the installation to complete (approximately 10 minutes).



Status: Visual Studio Code Version 1.95.3, ESP-IDF Extension Version 1.9.0, Visual C++ Redistributable 14.42.34433.0